

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-012834**Date Inspected:** 12-Mar-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

This is a revised inspection report to correct the following weld numbers: CA025-001, CA029-001, SEG031B-030

CWI Inspectors: Mr. Zhu Zong Hai and Mr. Lv Li Qing

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

OBG Bays 1 through 9

This QA Inspector observed no ZPMC personnel were working on Caltrans OBG segments or tower assemblies in OBG Bays 1 through 9.

OBG Bay 14

This QA Inspector observed ZPMC welder Mr. Fang Long Pu stencil 049128 is using shielded metal arc weld process to tack weld OBG segment 12AE corner assembly CA3001 plates together. This QA Inspector observed that Mr. Fang Long Pu has a torch adjacent to where he had recently completed tack welding. This QA Inspector measured a welding current of approximately 150 amps and the welding electrodes are warm to the touch but the

WELDING INSPECTION REPORT

(Continued Page 2 of 4)

electrode storage heated container was not connected to any power supply. This QA Inspector observed Mr. Fang Long Pu connecting the electrode storage container to an electrical power supply and Mr. Fang Long Pu appears to be certified to make this weld. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Mr. Zhao Fenli, stencil 051128 is using shielded metal arc weld process to tack weld 12CE side plates welds. This QA Inspector observed that Mr. Zhao Fenli has a torch adjacent to where he had recently completed tack welding. This QA Inspector measured a welding current of approximately 155 amps. This QA Inspector observed Mr. Zhao Fenli appears to be certified to make this weld. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welders Mr. Jiang Shi Zhen, stencil 048694, Mr. Li Fuli, stencil 45136 and Mr. Jiang Shi Zheng, stencil 48694 have recently used the shielded metal arc welding process to tack weld various floor beams, longitudinal diaphragms and other components together near panel points 114 and 116 OBG segments 12BW and 12CW. This QA Inspector observed all three of the welders listed above appear to be certified to make these welds and the welding electrode ovens appear to be connected to electrical power supplies. This QA Inspector did not observe any of these welders performing any welding. Items observed on this date appeared to generally comply with applicable contract documents.

OBG Bay 19

This QA Inspector observed ZPMC welder Mr. Dai Lu, stencil 048659 is using shielded metal arc welding procedure WPS-345-SMAW-2G(2F)-Repair to make repair welds to support bracket weld SB007-040-007. This work is being performed as directed by ZPMC weld repair document BCWR-1313 as a result of UT rejects that are documented on UT report B787-UT-11209R. Note: this CWR document has been submitted to Caltrans for approval and this document does not appear to have been stamped as being approved by the Caltrans Engineering Department. This QA Inspector observed the welding electrodes are being stored in a portable rod oven which is connected to an electric power cable. When his QA Inspector arrived approximately half of this weld repair had been completed and this QA Inspector observed the base material appears to have been preheated with a torch prior to commencement of welding. ZPMC QC Inspector Mr. Xu Tao appears to be monitoring the base material temperature using a laser temperature indicating device. This QA Inspector measured a welding current of approximately 180 amps and Mr. Dai Lu appears to be certified to make this weld. This QA Inspector observed the weld repair document states "QC and a Lead CWI (Certified Welding Inspector) shall be present and monitor all gouging, grinding and welding operations during the repair". This QA Inspector did not observe any CWI Inspectors in OBG Bay 19 and when questioned about this statement Mr. Xu Tao informed this QA Inspector that he will call CWI Mr. Zhu Zhong Hui and ask him to come to OBG Bay 19. Approximately ten minutes later CWI Mr. Zhu Zhong Hui arrived in OBG bay 19 and he commenced monitoring of this welding. Items observed on this date do not fully appear to comply with applicable contract documents.

Segment Trial Assembly

ZPMC presented QA personnel with "Notification of Witness Inspection" document #005326 that states ZPMC has completed magnetic particle and ultrasonic inspections of OBG segment 6W green tag #3 hold back side plate to edge plate and longitudinal diaphragm welds.

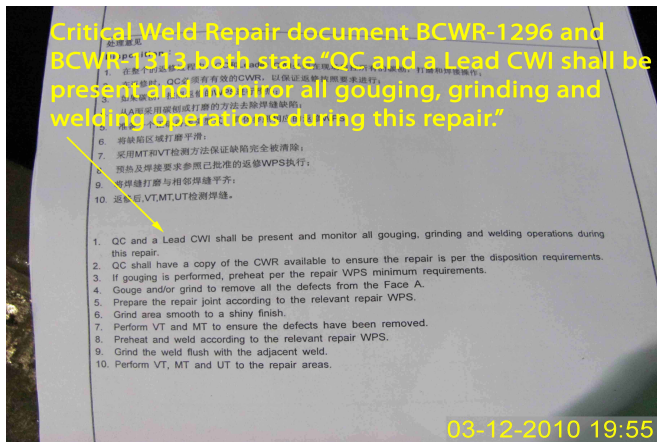
WELDING INSPECTION REPORT

(Continued Page 3 of 4)

This QA Inspector performed random ultrasonic (UT) inspections of weld CA025-001 hold back weld between the edge plate and the side plate on OBG segment 6AW counter weight side near panel point 38, weld CA029-001 hold back weld between the edge plate and the side plate on OBG segment 6CW counter weight side near panel point 47, and weld SEG031B-030 hold back weld between the edge plate and the side plate on OBG segment 6CW cross beam side near panel point 47, and items observed by this QA Inspector appear to comply with AWS D1.5 UT requirements. For additional information on these inspections see the TL6027 Ultrasonic Test Report and the photograph below.

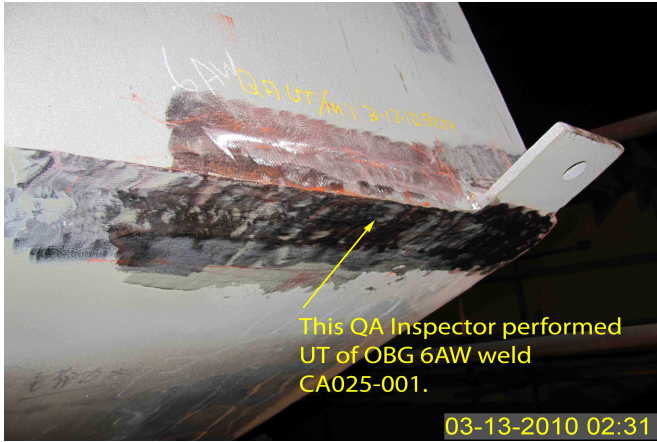
(Revision 1: Welds CA025-001, CA029-001, SEG031B-030 are added to the UT and MT paragraphs below, and the incorrect numbers have been removed. PSD)

This QA Inspector performed random magnetic particle (MT) inspections of weld CA025-001 hold back weld between the edge plate and the side plate on OBG segment 6AW counter weight side near panel point 38, weld CA029-001 hold back weld between the edge plate and the side plate on OBG segment 6CW counter weight side near panel point 47, weld SEG031B-030 hold back weld between the edge plate and the side plate on OBG segment 6CW cross beam side near panel point 47, welds SEG31F-009 and SEG31F-010 between OBG segment 6CW longitudinal diaphragm LD15A and bottom plate BP088A near panel point 47 and welds SEG31D-009 and SEG31D-010 between segment 6CW longitudinal diaphragm LD16A and bottom plate BP142A on OBG segment 6CW cross beam side near panel point 47 and items observed by this QA Inspector appear to comply with AWS D1.5 MT requirements. For additional information on this inspection see the TL6028 Magnetic Particle Test Report and the photograph below.



WELDING INSPECTION REPORT

(Continued Page 4 of 4)



Summary of Conversations:

See Above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Carreon,Albert	QA Reviewer
